

SEMESTER END EXAMINATION MAY (2026)

Course Name: - B.Tech (CSE-AIDS)

Semester:- 4

Paper Name: - Introduction to Artificial Intelligence

Paper Code:-NAD-402

Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer.

Max Marks-70

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries 3 mark. All questions are compulsory.
- Section B- Answer any 5 out of 7 given questions. Each question carries 7 marks.
- Section C- Answer any 2 out of 3 given questions. Each question carries 10 marks.

Section - A (खण्ड-अ)

Multiple Choice Questions (बहुविकल्पीय प्रश्न)

1. Answer all the following questions.

5×3=15

2.

1) Which of the following is the branch of Artificial Intelligence?

- (a) Machine Learning
- (b) Cyber Forensics
- (c) Full Stack Developer
- (d) Network Design

2) What is the goal of Artificial Intelligence?

- (a) To solve artificial problems
- (b) To extract scientific causes
- (c) To explain various sorts of intelligence
- (d) To solve real-world problems

3) What does the Bayesian network provide?

- (a) Partial description of the domain
- (b) Complete description of the problem
- (c) Complete description of domain
- (d) None of the mentioned

4) What is an AI agent?

- (a) Takes input from the surroundings and uses its intelligence and performs the desired operations
- (b) An embedded program controlling line following robot
- (c) Perceives its environment through sensors and acting upon that environment through actuators
- (d) All of the mentioned

5) Which of the following is a component of AI?

- (a) Training
- (b) Learning
- (c) Designing
- (d) Puzzling

Section - B

Short Answer Questions

3. Answer any five of the following questions.

- (i) Define Artificial Intelligence. Explain concept and history of AI.
- (ii) Explain about Depth First Search with suitable example.

5×7=35

- (iii) Describe about A* algorithm with suitable example. Explain their Time and Space complexity.
- (iv) What do you know about Inference? Explain various types of inference.
- (v) Describe briefly about Hidden Markov Model.
- (vi) Explain Utility Theory with their function.
- (vii) What is Reinforcement Learning. Describe about Q-Learning techniques.

Section – C
Descriptive Questions

4. Answer any 02 of the following questions.

2×10=20

- (i) Describe briefly about benefits and area of application in AI.
- (ii) What is Baye's Theorem? Explain Naïve Baye's classification with suitable example.
- (iii) Explain Best First Search with suitable example.
